

**The University of Georgia
Administrative Policies and Procedures Manual . Finance and Administration**

Organization:

32 TELEPHONE SERVICES

Subject: .1 Policies

Date: March 28, 2000

Policy 1

USE OF UNIVERSITY TELEPHONES

The use of all University telephone services must be limited to official University of Georgia business only.

Policy 2

TELEPHONE SERVICE AND EQUIPMENT

All requests for telephone equipment, service or assistance should be submitted to the Telephone Services Office, Business Services Building. This applies to all telephone purchases regardless of the source of funding, e.g., general operations, departmental services, auxiliary services, and sponsored accounts.

The Telephone Services Office is responsible for distribution of DOAS telephone billing to University departments. Telecommunication costs are charged directly to units on the monthly account status report. University policy provides that the department head is responsible for the expenditure of departmental funds and the care and use of departmental property. In connection with this responsibility, a departmental representative should examine the monthly telecommunications bill to ensure it accurately reflects the hardware and services for which the department is paying.

Policy 3

PURCHASE OF CELLULAR PHONE SERVICE

The University of Georgia policy for approval of cellular phone service includes the following:

- (1) All requests for cellular/wireless service must be approved by the cognizant Vice President using the Request for Approval of Cellular/Wireless Service Form.
- (2) All requests must be coordinated through the University Telephone Services Office. This office will provide information about vendors and services offered.

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PURCHASE OF CELLULAR PHONE SERVICE (Cont'd)

- (3) Department may contact local cellular/wireless company directly for information regarding the types of units available and the services offered. Written cost information should be submitted to the departments from the vendors. Detailed billing must be provided by the vendor to verify that calls are for business purposes.
- (4) The University of Georgia Request for Approval for Cellular/Wireless Service form Should be completed by the department and approved by the appropriate Vice President.
- (5) The Request for Approval for Cellular/Wireless form should be forwarded to the Telephone Services Office, Business Services Building for review and approval. Upon approval the Telephone Services Office will return the form to the department.
- (6) When the department receives an invoice from the cellular/wireless vendor, attach a copy of the approval form and invoice to the check request to process payment to the vendor.
- (7) The monthly billing from the cellular/wireless vendor should be sent directly to the department responsible for payment. The monthly billings should be submitted for payment by the department using a check request.

UGA POLICY REGARDING USE OF CELLULAR/WIRELESS PHONES

THE USE OF ALL STATE TELEPHONE SERVICES MUST BE LIMITED TO OFFICIAL
STATE BUSINESS ONLY

Since local cellular/wireless phone service is based on a per minute rate and there is no provision to charge a toll fee to a personal credit card, personal calls should not be made on cellular/wireless phones for which billings are sent directly to the University by the telephone carrier.

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Policy 4

CABLING FOR TELEPHONE, DATA, AND VIDEO SERVICES

It will be the responsibility of the building project manager to coordinate the telephone, data, and video requirements for each new building or renovation project. The project manager should present these requirements to the project designer through the office of University Architects for Facilities Planning or Physical Plant, whichever has the responsibility for supervising the project. The Telephone Services Office will assist in the specifications for telephone service (Coordinating with DOAS), the University Computing and Networking Services Office will assist in the specifications for data service, and the Instructional Support and Development will assist in the specifications for video service. It will be the responsibility of the designer to be sure all three cabling needs have been reviewed with the respective offices as noted above. The offices noted above shall comprise the Campus Network Support Group (CNSG).

All new buildings and building renovations will be wired to accommodate voice, data, and video needs (both initial and future needs) and no single use wiring plans (i.e., voice only or data only) will be acceptable without prior approval from the CNSG.

Project cost estimates will include both the outside and inside conduit and cabling to the appropriate jack locations for telephone, data, and video services including common equipment. The University Telephone Services Office, University Computing and Networking Services, and Instructional Support and Development will assist in making necessary cost estimates. Both outside and inside cabling costs should be estimated separately so it can be determined at the outset of the project who is responsible for costs relating to each phase of cabling. For major new buildings it may be necessary to include the telephone work stations as part of the project cost.

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OUTSIDE CABLING AND CONDUIT

This section constitutes the general outside cabling and conduit requirements for telephone, data, and video services for new buildings and for renovation of existing buildings where expanded services to the building will be required.

A. General Guidelines for Outside Conduit and Cabling of Campus Buildings

1. Outside Conduit

The conduit specifications noted below represent the connection from the building main distribution frame room to the appropriate campus network manhole or handhole. The exact number and size of conduits will vary based on the quantity requirements for each type of cabling needed to serve the building. In general, the following conduit will be required:

- a. A minimum of one 4" PVC conduit (with pull wire) for telephone cable
- b. A minimum of one 4" PVC conduit (with pull wire) for data/video cable
- c. Two spare (empty) 4" PVC conduit (with pull wire)
- d. See F.1. below for possible additional conduit requirements for pay phones and leased lines.

2. Outside Cabling

Outside cabling will be enclosed in PVC conduit as noted above unless otherwise agreed upon. General guidelines for outside cabling from the building main distribution frame room to the nearest manhole are noted below:

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OUTSIDE CABLING AND CONDUIT (Cont'd)

- a. The telephone cable shall be 24 gauge jelly filled cable. The quantity shall be determined by the number of planned telephone work stations (lines) the building will utilize. As a general rule, the building shall be equipped with 4.5 pairs per planned telephone work stations (3 pair per telephone line + 50% growth).
- b. The number and type of data/video cables will be determined by University Computing and Networking Services (UCNS) for data requirements and by Instructional Resources Center for video requirements based on the needs of the clientele occupying the building.

B. Planning and Design

1. The University Architects for Facilities Planning Office or Physical Plant will plan and coordinate installation of the necessary connections to the appropriate manhole or handhole serving the Campus Network. The planning process will include the telephone, data, and video services needs. The Telephone Services Office will assist in the specifications for telephone service (coordinating with DOAS), the University Computing and Networking Services Office will assist in the specifications for data service, and the Instructional Resources Center will assist in the specifications for video service. It will be the responsibility of the University Architects for Facilities Planning Office or Physical Plant to be sure all three cabling needs have been reviewed with the respective offices as noted above, and the design for all telecommunications systems approved by the CNSG.

C. Coordination of Work

1. Conduit
 - a. UCNS will be responsible for arranging for the connection (i.e., core boring and sealing work) of the conduit into the manhole or handhole, and will also coordinate the installation of any needed telephone (and UGALAN

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OUTSIDE CABLING AND CONDUIT (Cont'd)

conduit, if the two runs are concurrent) conduit that might be necessary “behind” the first serving manhole or handhole; that is conduit that would be required to run from the manhole back to the Common Equipment Room serving this building. If the telephone conduit and data/video run are not concurrent, the UCNS will be responsible for coordinating the installation of the data/video conduit behind the first serving manhole or handhole to the appropriate connecting point.

2. Cabling

- a. Cabling for voice services, data services and video services will be coordinated by UCNS in consultation with Telephone Services and ISD.

D. Cost Estimates and Funding Responsibility

1. New Buildings and Renovations

For new buildings and renovation projects the conduit, common equipment, and cabling costs for telephone, data, and video will be included as part of the overall project cost. The University Telephone Services Office, UCNS, and ISD will assist in the cost estimates as requested by the project manager.

E. Invoicing for Services

1. Upon actual completion of the work, UCNS will invoice the project manager.

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OUTSIDE CABLING AND CONDUIT (Cont'd)

F. Pay Phones and Leased Circuits

1. If there is a current or future need for pay phones or leased common carrier circuits (i.e., radio loops) from Bell South; then a “common carrier entrance conduit” must be provided. The cabling will be provided by Bell South; however, the conduit from the building telephone equipment room to the nearest Bell South point of presence (i.e., Bell South manhole or telephone pole) will be included as part of the building project. This conduit is for Bell South’s use only and should not be confused with the other conduit requirements.

INSIDE CABLING

A. General

The general guideline for installing inside wiring for new buildings on campus require the contractor to provide all labor and materials for installation of the interior building cable system including interior conduit. The contractor will install the interior building cable system in accordance with the specifications outlined below.

B. Building Wiring Infrastructure Requirements

1. All buildings will provide one dedicated telecommunications main distribution frame room (MDF) and most likely one or more dedicated telcom intermediate distribution frame rooms (IDF). The number of these shall be determined by the CNSG.

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INSIDE CABLING (Cont'd)

2. The MDF will be at least 12'x20' in size and each IDF must be at least 8'x8'. These are the minimum acceptable sizes. Each MDF/IDF will be furnished with appropriately sized panels of 3/4" thick plywood backboards mounted to the wall(s) of the room. The size and number of the panels and mounting location will be determined by the CNSG.
3. These rooms must be dust and static free and, provide air conditioning, security (i.e., a lockable door), lighting, and be equipped with appropriate dedicated power. A 250 MCM ground wire, run from the main building electrical panel, must be provided. These rooms must not house, or be near equipment that emits high RF/EMI radiation, or be exposed to any other adverse environmental conditions.
4. It is highly recommended that these rooms be equipped with a pre-active (dry pipe) sprinkler system in lieu of the traditional fire control sprinkler approach.
5. Each IDF and MDF must be provided with a means of wiring egress. It is recommended that this can be accomplished by providing four 4" "home run" conduits running from MDF to IDF #1 to IDF #2, etc., or by providing four 4" conduit sleeves in each IDF/MDF room. However, if this latter sleeve approach is used, there must be an unobstructed path for as many as 100 wires to travel from MDF to IDF #1, IDF #1 to IDF #2, etc. Under no circumstances shall any conduit contain more than two (2) 90 degree bends nor exceed 180 degree total bending angle without the installation of pull box(s) to accomplish the above.

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INSIDE CABLING (Cont'd)

C. Work Station Wiring Runs

1. General

- a. Station wiring runs should be plenum type wire and should be 1" minimum conduit. Under no circumstances shall any conduit contain more than two 90 degree bends nor exceed 180 degree total bending angle without the installation of pull box(s) to accomplish the above. The station receptacle box shall be a minimum of 1.75" deep, single gang box.
- b. This conduit, at a minimum, shall run from a receptacle box (as marked on the building plans) to at least stubbed above the ceiling, then unobstructed wiring egress to the appropriate IDF located on the same floor. The receptacle must be within 300 cable feet of the IDF wiring frame. If divided raceway is used to serve both electrical and communication, the raceway must be metal. Under no circumstances should cable be installed below ceiling in an exposed fashion, i.e., all surface mounted cable should be enclosed in conduit.
- c. Cables shall not be tie wrapped or routed along electrical or gas conduit. Station cable run above a suspended ceiling shall be in a cable tray, or be secured to the wall directly above the suspended ceiling or to the concrete ceiling structure every three feet by cable hangers. Cable ties must be trimmed off cleanly at the locking hole. Cables shall be secured at every corner. Cables shall be run in a uniform fashion and shall not be woven among other utilities.

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INSIDE CABLING (Cont'd)

- d. At the receptacle box end, enough additional wire (slack) must be left to reach the farthest corner of the wall, plus five feet. At the IDF/MDF end, at least 15 feet of additional wire (slack) must be provided past the center point of the appropriate voice or data racks.
- e. For renovation projects when it is necessary to have exposed interior wiring runs, the wire shall be enclosed using wire molding or conduit. Under no circumstances should cable be installed below ceiling in an exposed fashion, i.e., all surface mounted cable should be enclosed in conduit.
- f. Each wiring run must be individually labeled (tagged) using the Campus Network numbering plan. This numbering plan is issued by the CNSG.

D. Distribution Specifications

- 1. The following applies for category 5 selection:
 - a. A minimum of three category 5, 4 pair, UTP wires shall be run from the receptacle box to the appropriate IDF/MDF.
 - b. No wiring runs will exceed 300 cable feet (receptacle box to serving IDF/MDF wiring frame).
 - c. The MDF shall be connected to each IDF with a separate multi mode, twelve strand, OFNP type (optical fiber, non-metallic, plenum) fiber optic cable. This fiber optic cable shall have at least 30 feet of additional cable (slack) on each end upon entering each IDF/MDF room. This fiber shall not have a bending radius of more than ten (10) times the outside diameter of the cable, or exceed the bending radius specs of the cable manufacturer. Fiber cables shall be terminated in rack mounted LIU patch panels.

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INSIDE CABLING (Cont'd)

- d. Twenty-four (24) gauge, plenum, CAT 3 UTP copper wire shall also be run from each IDF back to the MDF. This copper wire shall be large enough to provide a minimum of 1 ½ pair of wires per receptacle box served by that individual IDF.
- e. Video coax cable shall be RG-6 plenum rated run from each video outlet box back to the IDF/MDF for that floor, and shall be terminated in rack mounted patch panels.

E. Execution

1. Station Jack Installation - General

Station jack installation shall conform to EIA/TIA 568B. The cable must be installed so that mechanical strain does not reach the jack.

Before wiring the actual jacks, DOAS must be contacted at 706-542-5221 for purposes of approving the proposed wiring method. Failure to do so will result in non-compliance with these specs.

2. Station Jack Installation - Surface Mount

Station jacks shall be installed in accordance with R.E.A. and N.E.C. specifications. They shall be mounted one foot from the floor (unless specified otherwise). The modular jack opening shall face out, down, or to either side, but not up. Where the opening faces out, the notch for the locking tab shall be on the bottom. The jack shall be secured to the wall with two or more screws.

3. Station Jack Installation - Flush Mount

Station jacks shall be installed in metal or plastic outlet boxes in the wall. The boxes must be secured in the wall so that no movement occurs during installation use or during normal use. The jack and wall plate must each be secured to the box by metal screws. The jack shall be oriented so the locking tab is facing downward.

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INSIDE CABLING (Cont'd)

4. Station Jacks

Each station jack shall provide eight terminals for the station cable in a modular telephone jack. They shall be ivory in color. Only one color shall be used throughout the project. Station jack types shall conform to EIA/TIA 568B specifications.

INSIDE CABLING - DATA SERVICES

- A. The inside cabling specifications for data services will be determined based on the specific functional requirements of the building. UCNS will provide consultation and preliminary planning guidance to assist the designers in providing the cabling requirements on a case-by-case basis for each building

INSIDE CABLING - VIDEO SERVICES

- A. The inside cabling specifications for video services will be determined based on the specific functional requirements of the building. ISD will provide consultation and preliminary planning guidance to assist the designers in determining the cabling requirements on a case-by-case basis for each building.
- B. The following general specifications will be required for buildings which are connected to the UGA Video Network:
1. The system must be a two-way 550 MHZ system with a sub-low split. That is, it must be capable of passing CATV Channels 2-86 in one direction and a return capability of Channels T7 through T13.
 2. The system must deliver a signal at the following levels:
 - a. Signal level at each room outlet minimum of 0, maximum of 20 dBmV on all channels.
 - b. Signal to Noise Ratio 43 dB or better
 - c. Signal to Composite Triple Beat 51 dB or better

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INSIDE CABLING - VIDEO SERVICES (Cont'd)

- d. System to Hum Modulation 40 dB or better
 - e. System Response +/- 1 ½ dB within any channel
 - f. Signal to Beat Interference 60 dB or better
 - g. Signal to Reflections 40 dB or better
 - h. Radiation must be within FCC Specifications or less than 20 uv/m low band and 50 u/vm high band on a tuned dipole at 10 feet, whichever is lower.
3. All rooms shall be a "home run" to splitters in the associated equipment room(s). It is permissible to loop outlets within one (1) room. No installation will be made which utilizes more than one loop through outlet.
 4. All outlets will be the standard CATV connector known as an F-81 connector, mounted on an appropriate height depending upon room arrangement.
 5. All classrooms shall have an additional audio/video input box mounted in/on the wall with video and audio cables pulled to an outlet box adjacent to the Video Network outlet. Both ends of the cable will be terminated in RCA connectors. Connectors at each end shall be mounted on an appropriate color wall plate. This box shall be at 48" from the floor. These RCA connectors shall be female, Switchcraft Part #3505F or equivalent as determined by Director of ISD. A sample of any alternate product is to be supplied for evaluation and approval. Manufacturer name is to be supplied.
 6. Outlets in classrooms shall be mounted in the front of the classroom. If it is anticipated that TV sets will be mounted on the wall, the network outlet shall be mounted near the ceiling as well as the audio/video outlet box.
 7. Cable, cable jackets, conduit and installation shall be in accordance with the applicable building codes.
 8. All working drawings of distribution systems which are intended for attachment to the UGA Video Network shall be subject to approval by the Director of ISD.

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ABBREVIATIONS USED IN CABLING POLICY (4)

CATV	Cable Television
CNSG	Campus Network Support Group (Consists of Telephone Services, UCNS, and ISD)
DOAS	(Georgia) Department of Administrative Services
EIA	Electronic Industry Association
EMI	Electro Magnetic Interference
IDF	Intermediate Distribution Frame (rooms used for wiring closet)
ISD	Instructional Support and Development
LIU	Light Interface Unit
MDF	Main Distribution Frame (room at main building entrance for wiring distribution)
MHZ	Megahertz
NEC	National Electrical Code
OFNP	Optical Fiber Non-Metallic Plenum
REA	Rural Electrification Association
RF	Radio Frequency
TIA	Telecommunications Industry Association
UCNS	University Computing and Networking Services
UGALAN	University of Georgia Local Area Network
UTP	Unshielded Twisted Pair