



MULTIPLE MIRROR TELESCOPE OBSERVATORY

Smithsonian Astrophysical Observatory and Steward Observatory, University of Arizona

MMTO Technical Memorandum 84-11

4/12/84

From: C. Heller, C. Janes, J. McAfee, J. Robertson
Subject: Control Room Consoles

The current operator console and observer console are temporary arrangements of tables installed during the 1983 summer engineering period. This memorandum recommends replacement furniture for the operator console and improvements to the observer console. The major objectives are to improve accessibility, convenience, and appearance.

Requirements:

1. Provide more room for the observer.
2. Provide for easy communication between observer and operator.
3. Put operator's video monitors at eye level.
4. Put operator's terminals and control panels at typewriter table height.
5. Provide access to shelves on "east" wall.
6. Provide rear access to monitors and consoles in general for ease in making connections.
7. Provide space for "table top" control console at operator's station.
8. Provide easy access for reference books.
9. Make TTY 43 used for observer's log more accessible.
10. Provide 45" clearance between console and "west" wall.
11. Provide 3' clearance between consoles and circuit breaker panels.
12. Provide space for stereo.
13. Provide space for PI equipment.
14. Console should have a finished, professional look.
15. Observer's tables will be on wheels. No consoles will be permanently attached to the floor or building to provide maximum flexibility for change.

Proposed layout: Figure 1 shows a top view of the control room with the proposed consoles and Figure 2 shows a front view of the operator's console with control equipment in place.

Operator's Console: Though two computer terminals are shown, we expect only one to be required once the links between the computers are operationally established. The work surfaces are suspended from a vertical panel so that there are no support legs in the way. The work surfaces are capable of supporting 200 lbs. The components of the furniture are stock Herman Miller or equivalent except for the counter cap for the video terminals which will be custom made to match the stock components by the local vendor.

Observer's Console: The existing tables and shelves are shown. The shelves are fixed; the tables are on wheels and may be moved about.

Common features:

Plug strips for power and outlets for the video distribution system will be mounted on the back of the consoles so that no cables will be connected from the back of the consoles to the east wall. Cables to the consoles will be dropped from the ceiling through a single cable channel to the observer's console

and another to the operator's console. The control console and other telescope control components will remain in the existing vertical rack until the new table top console is complete. A 19" table top rack will house control panels as shown.

Implementation: Changes to this proposal will be considered for one month after this report is distributed. A final report will be prepared for the Director's approval at that time.

The supplier will be chosen through the normal bidding procedure so that installation can be expected within 2 months after final approval. Installation of the furniture will be done by the supplier on the day of an engineering run so that observatory equipment can be installed and checked out before observing takes place the following night.

Cost of the console furniture will be about \$3000.

Enclosures:

- Figure 1: MMT0 Control Room Version E
- Figure 2: MMT0 Operator's Console Version D
- Enclosure 1: Quote from vendor.

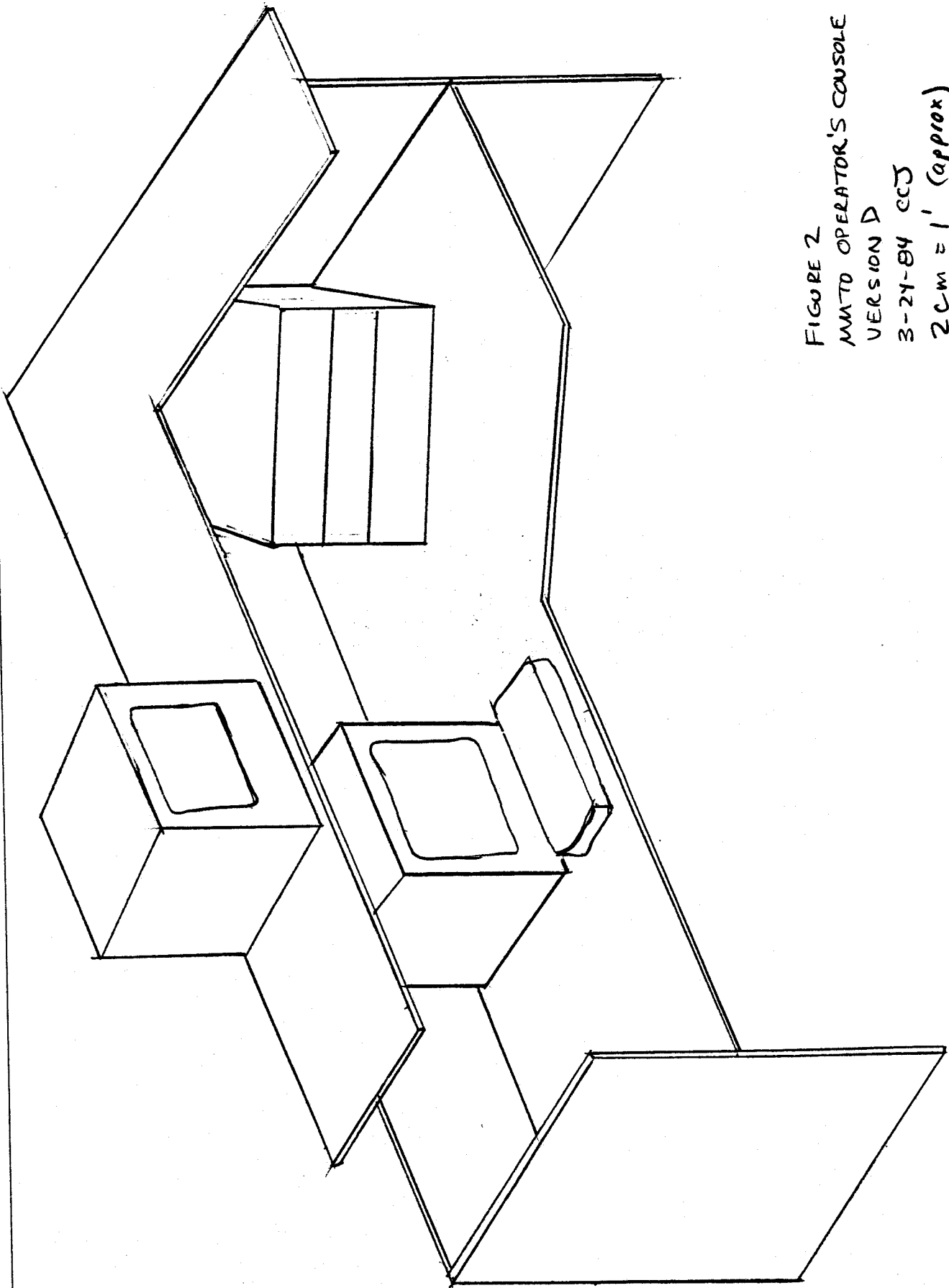


FIGURE 2
MANTO OPERATOR'S CONSOLE
VERSION D
3-24-84 CCJ
2 CM = 1' (approx)

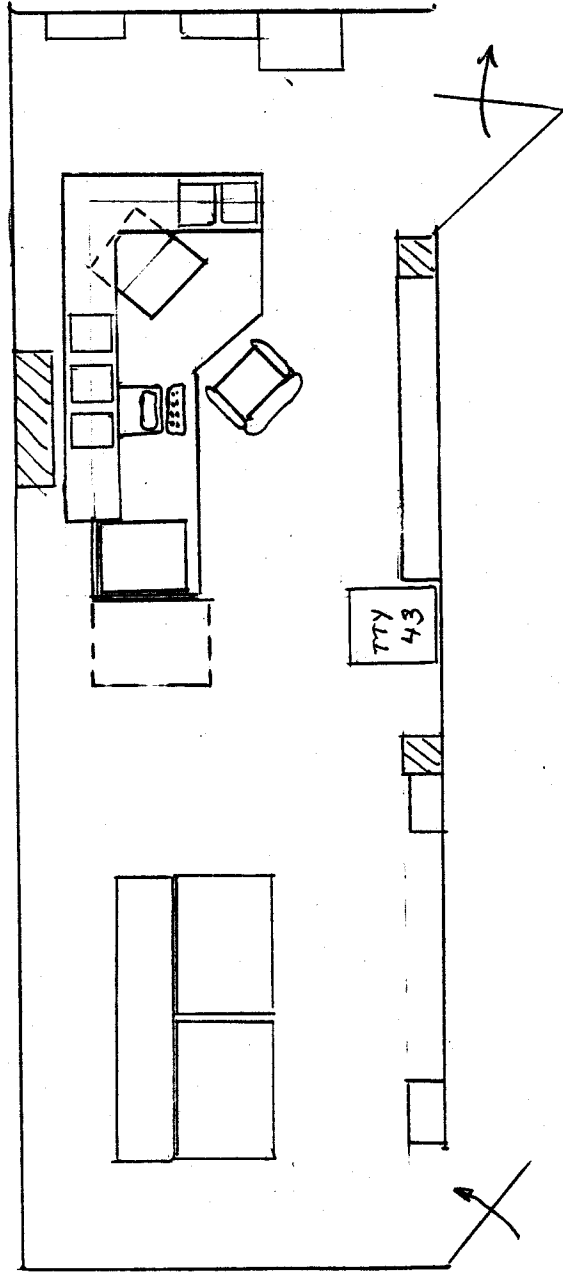


FIGURE 1
 MMTO CONTROL ROOM
 VERSION E
 3-24-84 CCJ
 1" = 5'

Proposal/Contract Agreement

Goodmans, Inc.
FURNITURE AND OFFICE SYSTEMS



Design Show Room
1400 E. Indian School Rd.
Phoenix, Arizona 85014
(602) 263-1110

2850
2855 East Speedway
Tucson, Arizona 85716
(602) 326-4327

Rental/Clearance Center
1301 Grand Avenue
Phoenix, Arizona 85007
(602) 263-1110

2701D Pan American Freeway
Albuquerque, N.M. 87107
(505) 344-1613

P.O. Box 1961
Flagstaff, Arizona 86001
(602) 779-3046

FOR Clinton James
Multiple Mirror Telescope Observatory
University of Arizona

Date March 7, 1984

Delivery Location

Scheduled Shipping Date

We propose to furnish the following:

Installation Required Yes No

QUANTITY	ITEM AND DESCRIPTION	UNIT PRICE	EXTENSION
1	HM, A0627LF, 42H x 48W Standard Panel	174.30	174.30
5	HM, A0628LF, 42H x 24W Standard Panel	113.40	567.00
1	HM, A01212LF, 42H x 30W Standard Panel	128.80	128.80
4	HM, A0620, 42" Panel Connector	5.88	29.40
2	HM, A0618LN, 42" Panel End Cap	10.50	21.00
2	HM, A0942LN, 42" Two Way 90 Degree Corner Connector	33.81	67.62
1	HM, A0804M8 Special, 72 x 17 Straight Counter Top, Neutral Light Surface	149.40	149.40
2	HM, A0595M8 Special, 24 x 17 Straight Counter Top, Neutral Light Surface	74.25	148.50
1	HM, A0653M8 Special, 32 x 17 Right Angle Counter Cap, Neutral Light Surface	140.40	140.40
1	HM, A0617LN, Mid End Support	11.48	11.48
-CONTINUED-			
		30% Deposit Required with Order _____	

This proposal is subject to and shall be governed by the terms and conditions on the reverse side hereof, and shall be void unless accepted by the customer signing a copy and returning it to Goodmans, Inc. within 30 days from the date hereof.

*NOTE: If these terms are unacceptable, it may necessitate our scheduling shipment and delivery to coincide with last produced component.

Goodmans, Inc.

Customer: _____

By _____

By _____

Title _____

3/7/84
DATE

Title _____

DATE

SEE TERMS AND CONDITIONS ON REVERSE SIDE HEREOF

OFFICE COPY

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Goodmans, Inc.
FURNITURE AND OFFICE SYSTEMS



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- P.O. Box 1961
Flagstaff, Arizona 86001
(602) 779-3046

FOR Clinton James
Multiple Mirror Telescope Observatory
University of Arizona

Date March 7, 1984

Delivery Location

Scheduled Shipping Date

We propose to furnish the following:

Installation Required Yes No

QUANTITY	ITEM AND DESCRIPTION	UNIT PRICE	EXTENSION
3	HM, A0615LN, Center Support	12.60	37.80
1	HM, A0616LN, End Support	11.48	11.48
1	HM, A0875M8, 72W x 29 3/4D Work Surface	292.60	292.60
1	HM, A0400M8, 48W x 29 3/4D Square Back Corner Work Surface	284.90	284.90
1	HM, A0987DT, Two Drawer Storage Unit w/Lock	212.80	<u>212.80</u>
		Sub-total	2,277.48
		Sales Tax	159.42
		Del & Inst	<u>341.62</u>
		TOTAL	2,778.52

Please retain the yellow copy for your files and return the white and green copies to our office after signing.

Thank You.

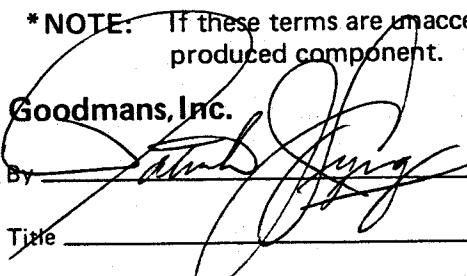
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