Thank you for your interest in our products. They are designed to overcome some of the shortcomings of one of the best color graphics systems - the Bally Arcade. The only catalog that lists our products is the Sourcebook by Dick Houser, 635 Los Alamos Ave., Livermore, CA 94550 $5.00. Our ads have appeared in the ARCADIAN and many editorials and tutorials can be found in Vol II and Vol III of that newsletter.

The Blue Ram is a small blue box with an edge connector that plugs onto the 50 pin expansion outlet on the back of the Bally. It contains 4096 bytes of static read-write memory (RAM) that can be protected from accidental writing (ROM mode) either by a switch or with software. An additional 128 bytes are not write protectable. A 24-pin Zero Insertion Force (ZIF) socket affords two 8-bit parallel input/output ports for controlling external devices. Under control of your program, any of these 16 bit lines may be read (input) or written to (output). The remaining 8 pins provide power and certain other connections for access to the Z80 microprocessor timing signals and the sound system.

The Blue Ram comes with two programs on tape, a regulated power supply and an instruction manual. Included in the programs are a Diagnostic for the Blue Ram and a Utility program to assist in machine language programming. The Utility also includes support program routines for generating multicolors with BASIC and hexidecimal write to tape. An arcade game can be transferred to the Blue Ram, modified and dumped to tape for later loading and running in the Blue Ram. Price is $180.00. Also available in kit form at $140.00 for EXPERIENCED wire-wrap kit builders (there are 14 IC's from 14 to 40 pins each, all in wire-wrap sockets, plus 13 discrete components in a box just over 1"x2"x4").
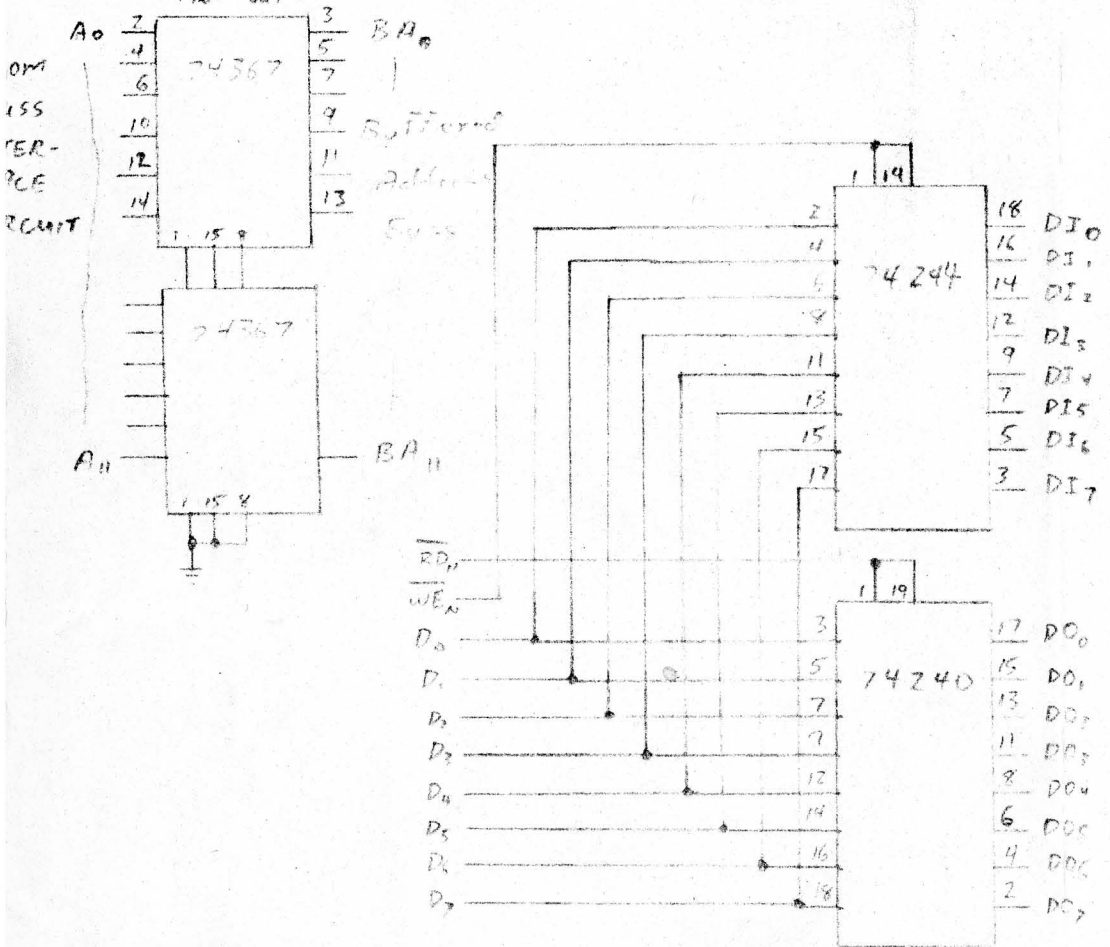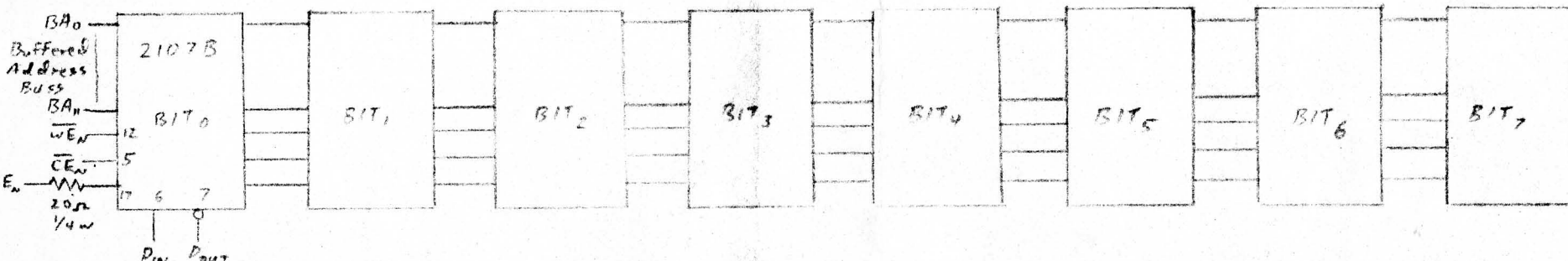
Our keyboard is a "standard" 62-key typewriter style assembly mounted on wooded end blocks and fitted with a 3-foot ribbon cable to plug into the ZIF socket on the Blue Ram. All 62 keys are active and will be used with the MODEM, etc., even though the Bally doesn't understand some of them (ESC, BREAK, lower case chatacters, etc.) Bally's words are added to the keyboard with attractive stickers. With documentation and tape, it is supplied wired and tested for $89.95. If you prefer a kit, this one is a little easier to wire and will save you about $30.00. The kit is $24.95 (excluding the keyboard itself - Model K62 wich can be ordered from JAMECO, 1355 Shoreway Road, Belmont, CA 94002).

The BLUE RAM Operating System (1.0) is a machine code program on tape which facilitates writing Bally Basic programs of 5200 to 5600 bytes! 1776 bytes go in Bally memory and 3400 to 3800 in the Blue Ram. With the editor (included in this program) you can change, delete or add any number of characters within a line without rewriting the whole line. You can also restructure your programs by moving entire lines up or down! Price is $9.95.

The BSR Controller is a system that communicates with the BSR X-10 ULTRASONIC Remote Control System. At $19.95, this controller comes ready to plug into the Blue Ram and be aimed at the BSR control console. The included taped program allows you to program up to 16 lights or appliances for up to 24 hours, in 10 minute increments. This is a form of break-in protection when you are away from home.

The Blue Ram MODEM/Printer Interface connects the Blue Ram to a STAR MODEM by Livermore Data or to a BASE 2 model 800B Printer or both. Now your Arcade can "talk" to other computers by `phone or explore the world of the SOURCE! The Blue Ram now acts as a 3071 byte buffer to store incoming traffic. The printer will automatically make hard copy. It also becomes a typewriter and will repeat a page or two with a single keystroke! Wired and tested---$99.95 ($89.95 without printer option). The kit saves you $20.00.

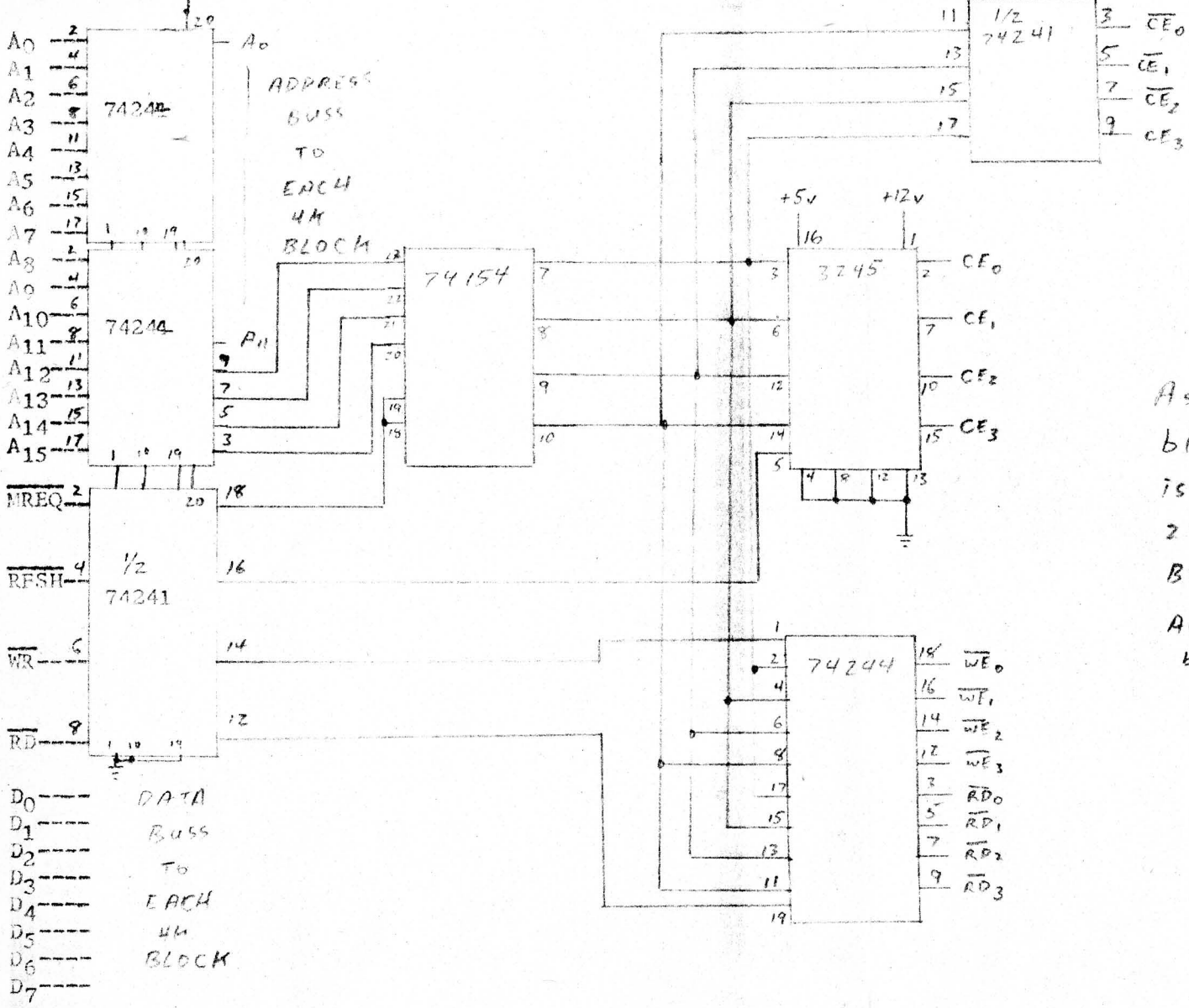All of these products come with taped programs and operating manuals.

BA₀
Buffered Address Buss
BA₁₁
$\overline{WE_N}$ 12
$\overline{CE_N}$ 5
CE_N 17 6 7
20Ω ¼w

2107B

BIT₀ BIT₁ BIT₂ BIT₃ BIT₄ BIT₅ BIT₆ BIT₇

D_IN D_OUT

A₀ 7 3 BA₀
   4 5
   6 7
   10 9 Buffered
   12 11 Address
   14 13 Buss

74367

1 15 8

A₁₁ BA₁₁

$\overline{RD_1}$
$\overline{WE_N}$
D₀
D₁
D₂
D₃
D₄
D₅
D₆
D₇

74244
1 19
2 18 DIO
4 16 DI₁
6 14 DI₂
8 12 DI₃
11 9 DI₄
13 7 DI₅
15 5 DI₆
17 3 DI₇

74240
1 19
3 17 DO₀
5 15 DO₁
7 13 DO₂
9 11 DO₃
12 8 DO₄
14 6 DO₅
16 4 DO₆
18 2 DO₇

See The Radio Shack memory Hand book (stock no. 62-1378, $3.95), page 4-1, for complete pinout of The 2107 B.

Required power supplies are +5, -5, and +12 v.

Note That $\overline{WE_N}$ is connected to each RAM and The 74244 buffer chip.

FUNCTION

+5v

A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15

74244

74244

A0

ADDRESS
BUSS
TO
EACH
4K
BLOCK

74154

1/2
74241

CE0
CE1
CE2
CE3

+5v   +12v

3245

CE0
CE1
CE2
CE3

MREQ

RESH-

WR

RD

1/2
74241

74244

WE0
WE1
WE2
WE3
RD0
RD1
RD2
RD3

D0
D1
D2
D3
D4
D5
D6
D7

DATA
BUSS
TO
EACH
4K
BLOCK

As shown,
block zero
is 24576D to
28671D (as
Blue Ram).
Addresses can
be changed by
selecting the
appropriate
output pin
on the 74154
chip.

BUSS INTERFACE CIRCUITRY
FOR 16K RAM USING INTEL 2107B
DYNAMIC RAM (OR EQUIVALENT)